

**ABSTRACT OF THE DISCLOSURE**

A light transistor system, including an image transistor, and a coolant passageway extending through the image transistor. The image transistor has a liquid crystal modulator, configured to amplify a low-power light signal using amplification energy from a higher-power light source, such as a laser or arc lamp. The coolant passageway is configured to receive a flow of coolant therethrough, to allow cooling of the image transistor to prevent damage to it from the higher-power light source.